Edelbrock 5.4L F-150 Supercharger

Part #1583

INTRODUCTION

Thank you for purchasing the Edelbrock 5.4L Ford Supercharger System for the F-150. The Edelbrock E-Force Supercharger System for the 2009-2010 5.4L 3V F-150 utilizes Eaton's new Gen VI TVS Supercharger rotors, featuring a four lobe design with a full 160 deg. of twist for maximum flow, minimum temperature rise, quiet operation, and the reliability for which Eaton is known. These rotors however, are merely the foundation of the system. The Edelbrock Supercharger is a complete system that maximizes efficiency and performance by minimizing air restriction into, and out of, the supercharger. This results in maximum airflow, with minimum temperature rise and minimum power consumption. In addition, Edelbrock inverted the supercharger and packaged it down low in the valley, allowing for an incredible, industry leading, 14 inches of runner length, maximizing low end torque. The supercharger housing itself is integrated into the intake manifold for a seamless design with minimal components, eliminating the possibility of vacuum leaks between gasket surfaces. The system also utilizes a front drive, front inlet configuration giving it the shortest, least restrictive inlet path on the market. Sitting right above the supercharger and below the enormous runners is the largest air to water intercooler available, measuring an astonishing 110 square inches. Last but not least, the E-Force supercharger is without a doubt the best looking engine compartment upgrade imaginable and features a uniquely styled plenum. In summation, the Edelbrock supercharger will provide you with the most power at the lowest amount of boost resulting in neck snapping performance that is safe to operate on a completely stock engine. It is also pending 50 state emissions legality, and can be had with an optional 5 yr 60,000 mile warranty so that there are no worries when installing it on your brand new truck.

TOOLS REQUIRED

- Jack and Jack Stands
  OR Service Lift
- Panel Puller
- Ratchet and Socket Set including Metric & SAE
- 12" Ratchet Extension Bar
- 1/2" Breaker Bar
- Flat Blade & Philips Screwdrivers
- Torx-20 Driver
- 1/8" Allen Wrench
- 5/8" Fuel Line Removal Tool
- Torque Wrench
- Vice
- Pliers
  OR Hose Clamp Removal Tool
- Hacksaw, Drill & File
  OR Grinding & Cut-Off Wheels
- Impact Wrench
- Terminal Removal & De-Pinning Tools
  OR Safety Pin
- Blue Loctite
- O-ring Lube
- Masking Tape
- Engine Oil & Filter
- Fan Clutch Nut Wrench
- Needle Nose Pliers

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IMPORTANT WARNINGS

Proper installation is the responsibility of the installer. Improper installation will void warranty and may result in poor performance and engine or vehicle damage.

Due to the complexity of the Edelbrock E-Force Supercharging system, it is recommend that this system only be installed by a qualified professional with access to a service lift, pneumatic tools, and a strong familiarity with automotive service procedures. To qualify for the optional warranty, it is necessary to have this system installed by a certified ASE technician, Ford dealership, or Edelbrock approved installer. Failure to have this system installed by a properly certified service center may void the optional warranty offered with this system. Please contact the Edelbrock Technical Support department if you have any questions regarding how this sytem and/or your installer of choice will affect any warranty coverage for which your vehicle may qualify.

Any previously installed aftermarket tuning equipment must be removed and the vehicle returned to an as stock condition before installing the supercharger.

Any equipment that directly modifies the fuel mixture or ignition timing of the engine can cause severe engine damage if used in conjunction with the Edelbrock E-Force Supercharger System. This includes, but is not limited to: ignition boxes, air/fuel controllers, OBDII programmers, and any other device that modifies signals to and/or from the ECU. Aftermarket bolt-on equipment such as underdrive pulleys or air intake kits will also conflict with the operation of the supercharger and must be removed prior to installation. Use of any of these products with the E-Force Supercharger could result in severe engine damage.

This kit includes all the parts needed to install this system on a 2wd truck. 4wd models will also need the 15834 Oil Filter Bracket Kit to clear the front differential.

91 octane or higher gasoline is required at all times. If your vehicle has been filled with anything less, it must be run until dry and refilled with 91 or higher octane gasoline twice prior to installation.

Inspect all components for damage that may have occured in transit before beginning installation. If any parts are missing or damaged, contact Edelbrock Technical Support, not your parts distributor.

Edelbrock periodically releases improved versions of the calibration file found on the supplied handheld programmer. Check the website to ensure you have the latest version, as described in step #165.

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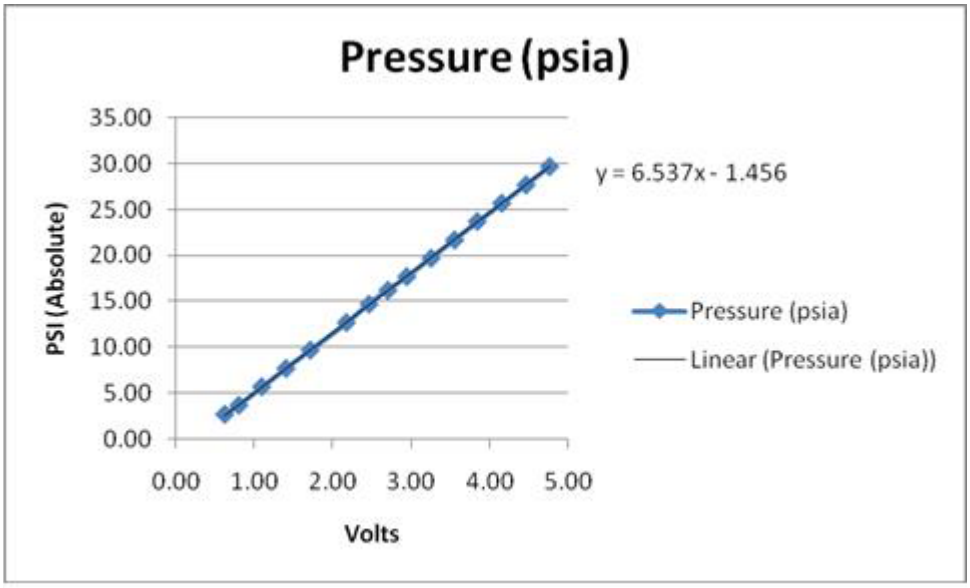
INSTALLING A BOOST GAUGE OR PRESSURE TRANSDUCER

Your E-Force supercharger is equipped with two options for measuring boost. The TMAP sensor mounted on top of the manifold at the rear of the driver's side, outputs a 0-5 volt signal through pins 1 & 2 (pin 1 is signal & pin 2 is signal return,) that can be converted to an absolute pressure reading using the below calibration curve. Use of this signal requires an ambient pressure correction for calculating boost pressure.



Voltage	Pressure (psia)
0.62	2.70
0.80	3.69
1.09	5.70
1.40	7.69
1.71	9.70
2.17	12.70
2.46	14.70
2.70	16.21
2.94	17.70
3.25	19.71
3.55	21.70
3.84	23.71
4.15	25.70
4.46	27.70
4.76	29.70

The second option is to utilize the pressure port at the front of the passenger side intake runner flange. Your supercharger has been pre-drilled and tapped for a 1/8" NPT fitting. There is currently a plug sealing the hole, which can be removed, and replaced with a fitting to adapt to your sensor.

CAUTION: Never cut into the vacuum lines leading to the fuel rail pressure sensor and bypass actuator, on the driver's side of the manifold, for the purpose of tapping in a boost gauge. Interruption of the vacuum signal to the fuel rail pressure sensor can affect the fuel pressure reading to the PCM, which can result in engine failure!

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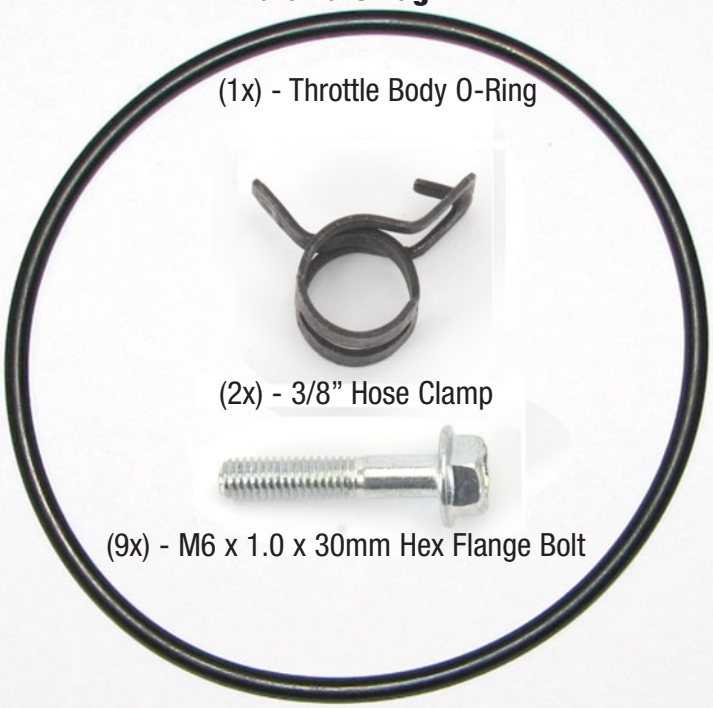
INSTALLATION HARDWARE PARTS LIST

Hardware Bag #1



(1x) - Throttle Body O-Ring

(2x) - 3/8" Hose Clamp

(9x) - M6 x 1.0 x 30mm Hex Flange Bolt

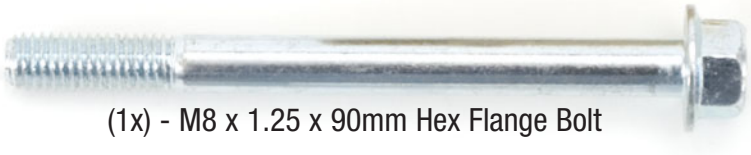
Hardware Bag #2

(4x) - M6 x 1.0 x 20mm Socket Flange Bolt

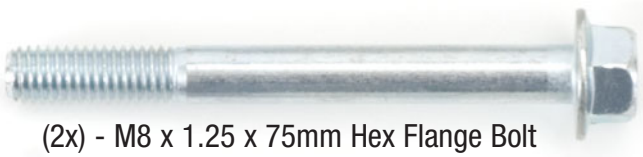
Hardware Bag #3

(2x) - Wire Tie *(Not to Scale)*

(1x) - 1/2-14 NPT to 3/4" Hose Barb Fitting
Not Used in Kit #1583



(1x) - M8 x 1.25 x 90mm Hex Flange Bolt



(2x) - M8 x 1.25 x 75mm Hex Flange Bolt

(4x) - M6 x 1.0 x 16mm Hex Flange Bolt

(1x) - M8 x 1.25 x 65mm Hex Flange Bolt

(1x) - M8 x 24mm x 2mm Washer

(1x) - 1/2-14 NPT Pipe Plug

(2x) - M8 x 1.25 x 35mm Hex Flange Bolt

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INSTALLATION HARDWARE PARTS LIST (Continued)

Hardware Bag #4

(4x) - M6 x 1.0 x 45mm Socket Cap Bolt

(4x) - M6 x 1.0 x 35mm Hex Flange Bolt

Hardware Bag #5

(6x) - M6 x 1.0 x 16mm Hex Flange Bolt

(8x) - 3/4” Hose Clamp

(4x) - M6 x 1.0 x 35mm Hex Flange Bolt

(6x) - M5 x 0.8 x 16mm Hex Flange Bolt

(1x) - M8 x 1.25 x 30mm Hex Flange Bolt

Hardware Bag #6

(1x) - 1-31/32” Hose Clamp

(1x) - 3/8” Pipe Plug

(8x) - Fuel Injector Bracket

(24x) - M6 x 1.0 x 12mm Hex Flange Bolt

(4x) - Fuel Rail Bracket

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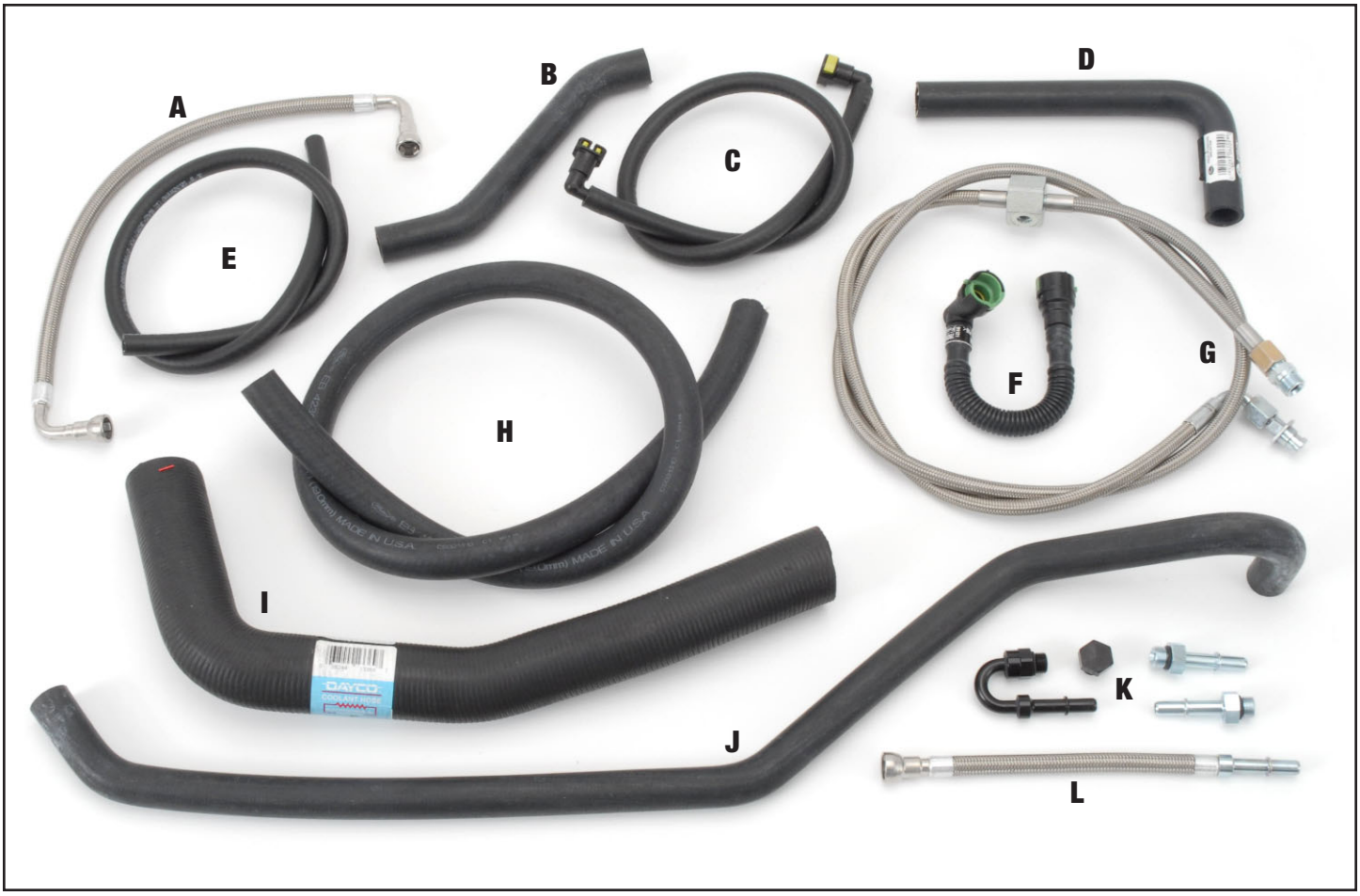
SUPPLIED HOSE LIST



LEGEND

A	Fuel Rail Crossover Line
B	Intercooler Reservoir to Supercharger Manifold
C	Passenger Side PCV
D	Intercooler Water Pump to Heat Exchanger
E	Supercharger Manifold to Brake Booster
F	Driver Side PCV

G	Power Steering Pressure Line
H	Heat Exchanger to Supercharger Manifold
I	Lower Radiator Hose
J	Intercooler Reservoir to Water Pump
K	Assorted Fuel Rail Fittings
L	Fuel Rail Input Line

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SUPPLIED WIRE HARNESS LIST

LEGEND

A	TPS Extension
B	TMAP Extension
C	EVAP Purge Solenoid Control

D	ETC Extension
E	Intercooler Water Pump Relay & Fuse
F	Alternator Power

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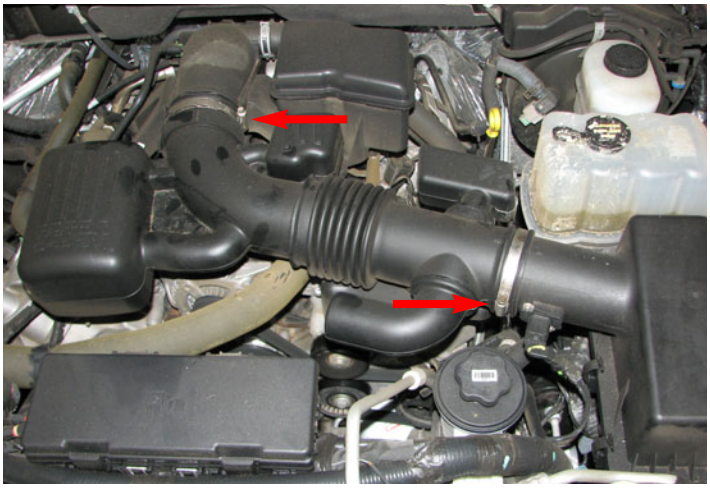
1. Use an 8mm socket to loosen the negative battery terminal clamp and remove it. Tuck it to the side to prevent any accidental contact with the negative battery terminal.

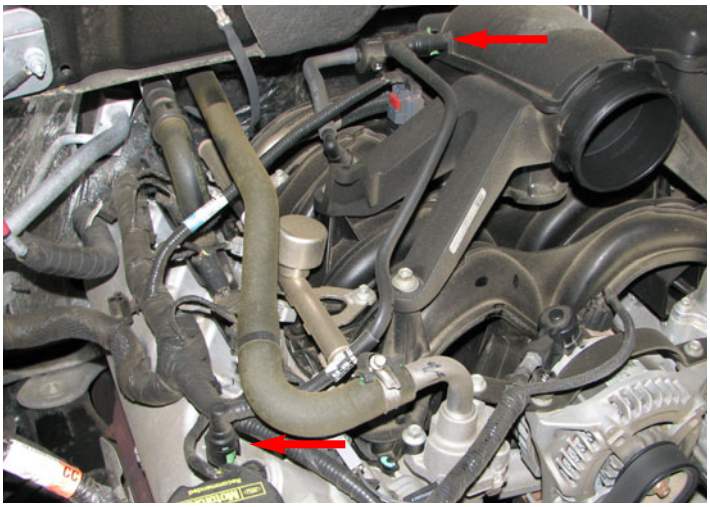
2. Use a 10mm socket to remove the nut on the positive battery terminal that retains the alternator power wire. Detach this wire from the terminal, then loosely reinstall the nut.

3. Use an 8mm socket to loosen and remove the positive battery terminal clamp, then tuck the wire over to the side.

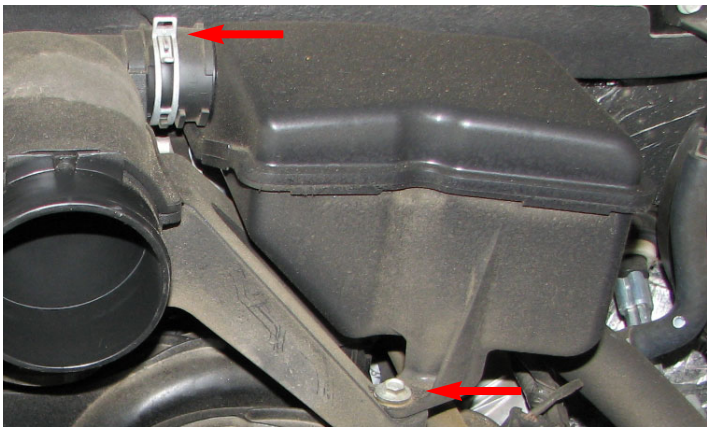
4. Loosen the two hose clamps retaining the air inlet tube, then remove the tube.



5. Disconnect the PCV tube running between the throttle body elbow and the passenger side valve cover.



6. Use a 10mm socket to remove the inlet resonator bolt, then loosen the hose clamp and remove the resonator.



7. Detach the electrical connector from the MAF sensor on the air box cover.

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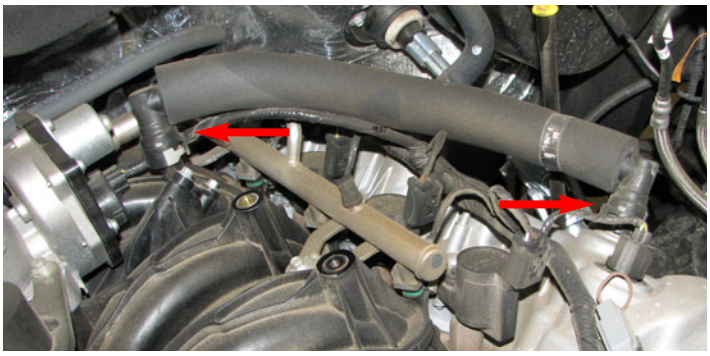
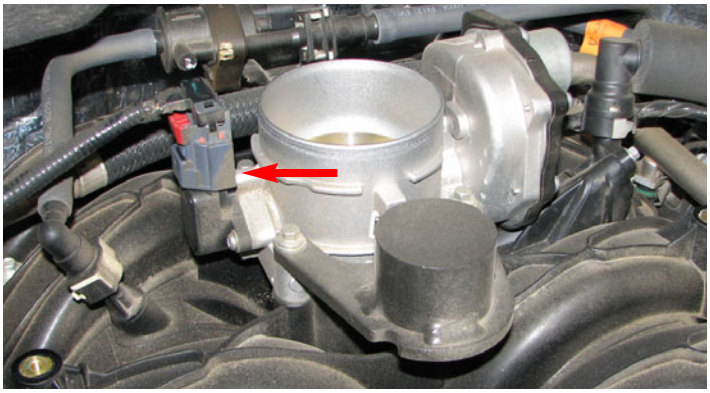
8. Remove the air box cover and stock air filter.

9. Use a 10mm socket to remove the three remaining bolts that hold the throttle body elbow to the intake manifold. Lift and remove the elbow.

10. Detach and remove the driver side PCV tube from the intake manifold and valve cover.



11. Detach the throttle position sensor (TPS) connector from the driver side of the throttle body.

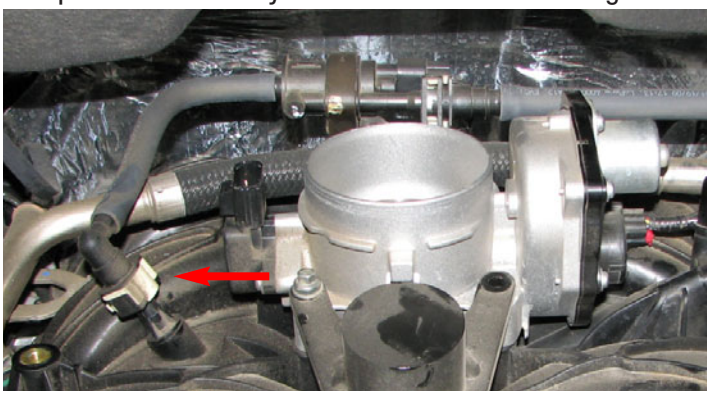


12. Use an 8mm socket to remove the two front throttle body bolts then remove the throttle body weight.

13. Use an 8mm socket to remove the two remaining throttle body bolts.

14. Lift the the throttle body slightly, then pull back the red tab on the electronic throttle control (ETC) connector and detach it. The throttle body can now be removed and set aside for reinstallation later.

15. Disconnect the EVAP hose from the passenger side of the manifold. Disconnect the electrical connector from the purge solenoid, then slide the solenoid off its bracket and push the assembly to the driver side of the engine.



16. Disconnect the fuel inlet hose from the fuel rails by sliding off the lock clip and depressing the blue tab. Use a shop rag to absorb any excess fuel.

17. Disconnect the electrical connector from each of the fuel injectors.

18. Pull the wiring harness off the two studs on the rear of the intake manifold.

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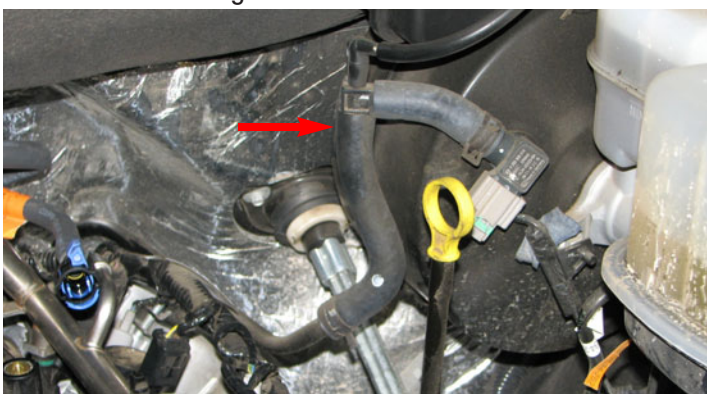
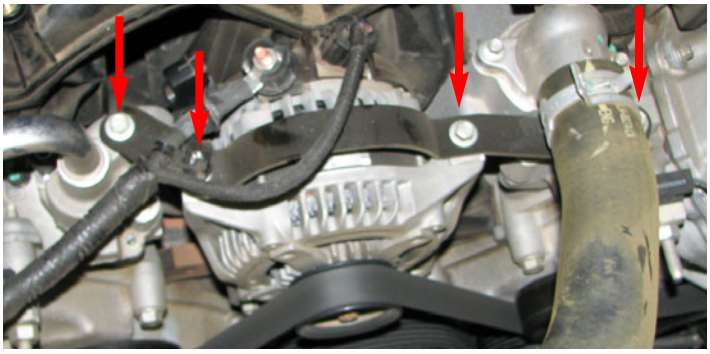
19. Disconnect the brake booster hose assembly from the brake booster fitting.



20. Insert a 1/2" drive breaker bar into the square hole of the belt tensioner. Push the breaker bar towards the driver side fender and remove the serpentine belt.

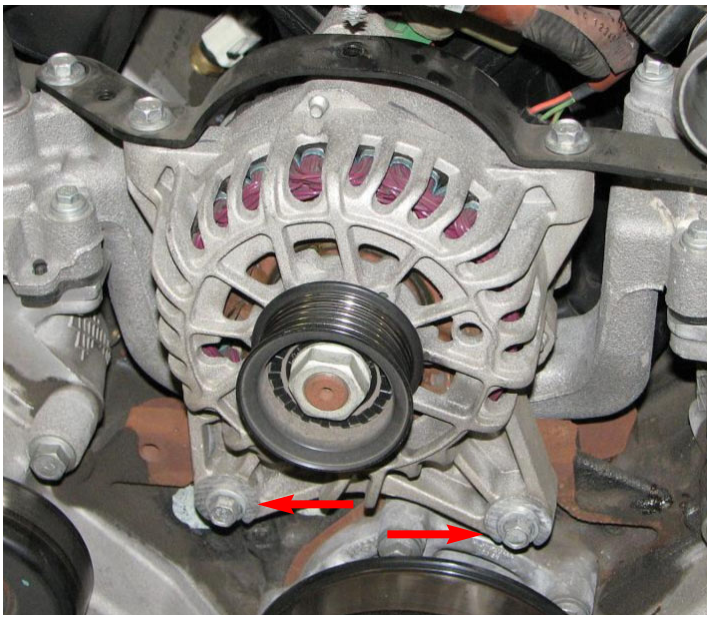
21. Seperate the wire harness from the alternator strap.

22. Use a 10mm socket to remove the four bolts that retain the upper alternator strap.



23. Remove the electrical connector from the alternator. Use a 10mm socket to remove the nut retaining the power wire. Remove the power wire and replace the nut.

24. Support the alternator while using a 10mm socket to loosen the two bolts that support the alternator. Lift the alternator off these bolts and set it aside. The two long bolts can be removed and discarded.



25. Trace the alternator power wire back to the harness connector on the passenger side of the radiator and disconnect it then remove the entire power wire harness.

26. Use a 10mm socket and a short extension bar to remove the ten intake manifold bolts then lift and remove the intake manifold.

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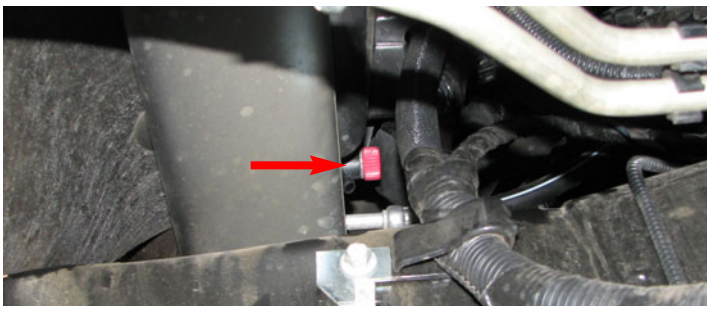
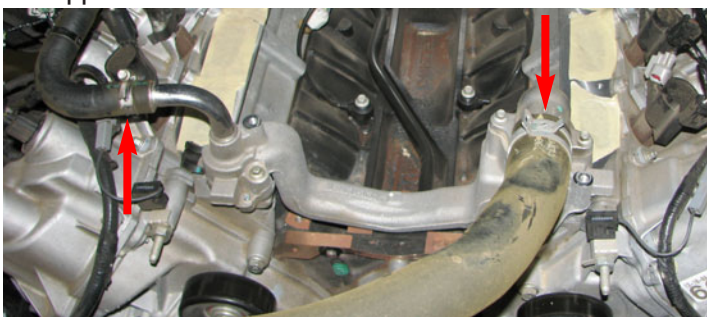
27. Use a soft cloth to clean any irregularities on the deck surface of the cylinder heads. Use two strips of masking tape to prevent any debris from entering the ports.

28. Trucks equipped with a skid plate will need to use a 15mm socket to remove the six bolts holding it in place and remove the plate.

29. Place a tray below the passenger side frame rail to collect coolant as it drains, then loosen the petcock at the bottom of the radiator to drain the cooling system. Close the petcock once the cooling system has been drained. (Attaching a small hose to the petcock nipple will make this procedure a lot less messy.)



30. Use a pair of pliers or a clamp removal tool to remove the upper radiator hose.



31. Use a screwdriver to remove the clamp that holds the heater hose to the water crossover then pull off the hose.

NOTE: The following fan removal procedure only applies to 2009 trucks equipped with a clutch fan. 2010 trucks equipped with an electric fan should skip ahead to step #41.

32. Pull the three wire harness retaining pins out of the fan shroud and push the harness back towards the firewall.

33. Unclip the power steering hose from the top of the radiator on the driver side.

34. Remove the bolt retaining the power steering reservoir and push the reservoir back towards the firewall.

35. Remove the four bolts retaining the fuse box then push the fuse box back towards the firewall.

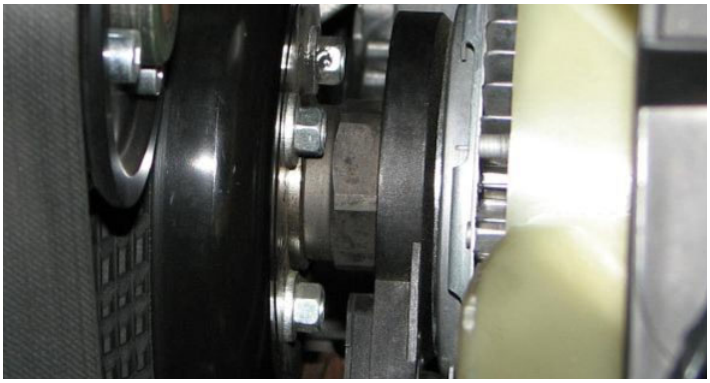
36. Remove the two bolts holding the fan shroud.

37. Reach up from below the truck and push the lock tab on the bottom of the shroud over the frame rail then flip the lower portion of the shroud forward and up.

38. Disconnect the fan clutch control wire harness connector then slide the brown connector off its bracket.

39. Lift the fan shroud up and out of the engine bay. This will require a fair amount of shoving things out of the way and jiggling. Patience is highly recommended.

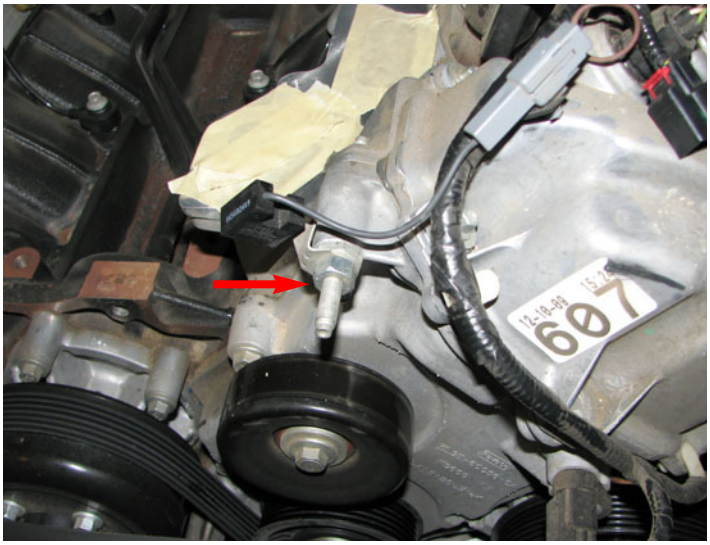
40. Use a fan clutch nut wrench and a fan pulley holding wrench to loosen and remove the radiator fan.



41. Use an 8mm socket to unbolt the thermostat housing and remove it. The housing, thermostat and o-ring will all be reused.

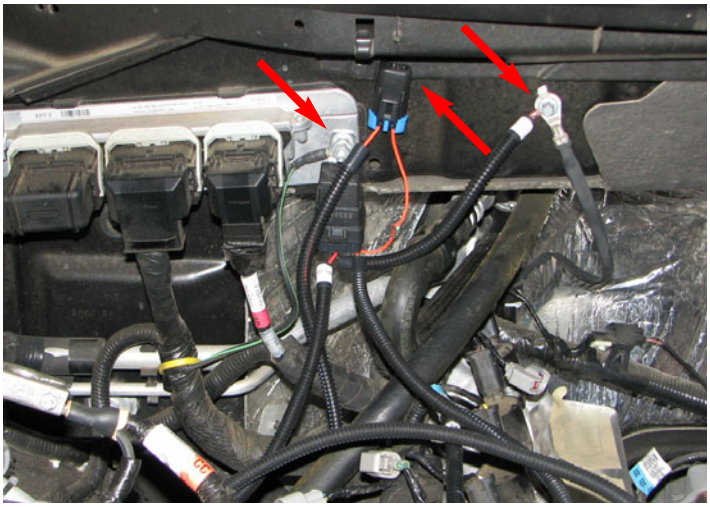
42. Use an 8mm socket to unbolt and remove the water crossover from the engine. Remove and retain the gaskets on each end.

43. Use a 15mm wrench to remove the nut from the stud located at the top of the engine cover, on the driver side. Use an 18mm wrench to then remove the stud and install the M8 x 65mm bolt supplied in Bag #3 in its place



44. Carefully remove the intake gaskets from the intake manifold by pushing the clips out of each hole in the flange.

45. Locate the engine ECU on the passenger side of the firewall. Mount the water pump relay on the stud located to the right of the three harness connectors. Route the ground strap to the bolt to the right of the ECU.



46. Mount the water pump fuse holder on the small bolt directly above the relay mounting location.

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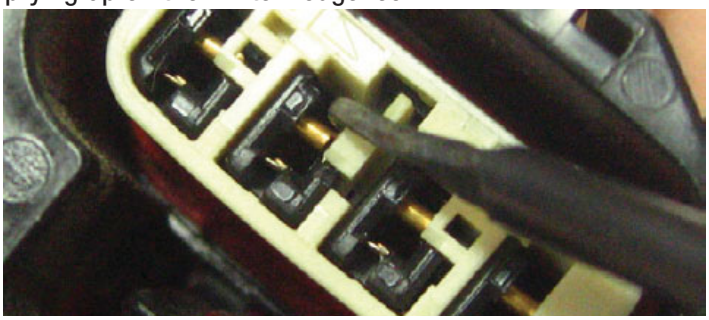
47. Route the wire from the fuse holder to the positive battery terminal.

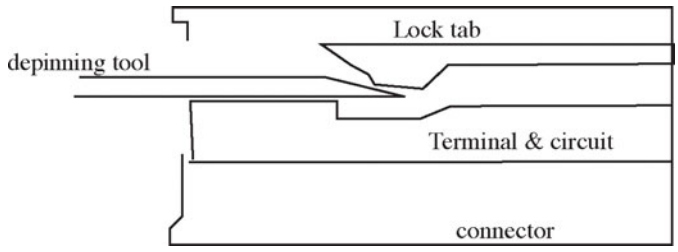
48. Route the water pump harness from the relay to the front of the radiator, on the passenger side.

NOTE: Edelbrock is in the process of acquiring OEM harness connectors to supply with superchargers. Compare the connectors you have recieved with those on the vehicle. If they match, you may skip the following TPS & EVAP depinning procedures.

49. Locate the TPS electrical connector. Use a small pick or screwdriver to release the center locking tab while prying up on the white wedge lock.



50. Make a note of the color of the wires going into each pin location, then use a depinning tool, needle or safety pin to slide under the terminal and lift the locking tab while pulling gently on the corresponding wire to de-pin the connector.



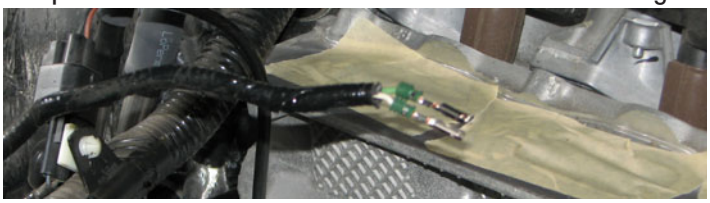
Recommended Tools

51. Install the wires from the TPS connector into the supplied connector in the same pin locations they were in originally, then push in the wedge lock to secure them.

52. Attach the TPS extension harness to the newly pinned connector.

53. Locate the EVAP solenoid connector extending from the main wire harness at the rear of the engine bay. Use a small pick or screwdriver to release the locking tab while prying up on the wedge lock.

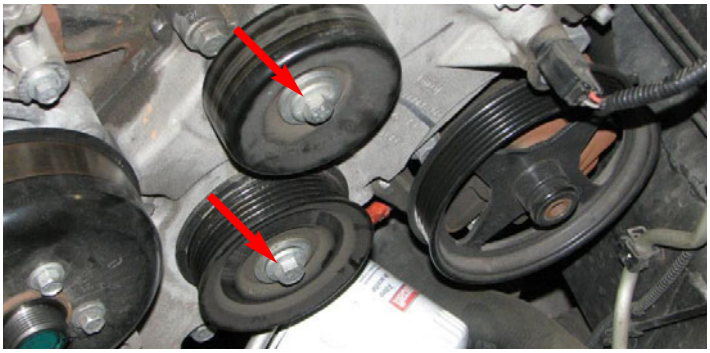
54. Use the same procedure as used on the TPS connector to depin the EVAP connector and transfer the wires to the new connector supplied on the EVAP extension harness in the same pin locations. Note that the pin numbers are molded into the connector housing.



55. Connect the EVAP extension harness to the new EVAP connector on the main engine wiring harness. Route the extension harness over to the EVAP purge solenoid and plug it in.

56. Route the water pump relay harness around the back of the engine and plug it into the matching connector coming off of the EVAP extension harness.

57. Unbolt and remove the idler pulleys on the driver side.



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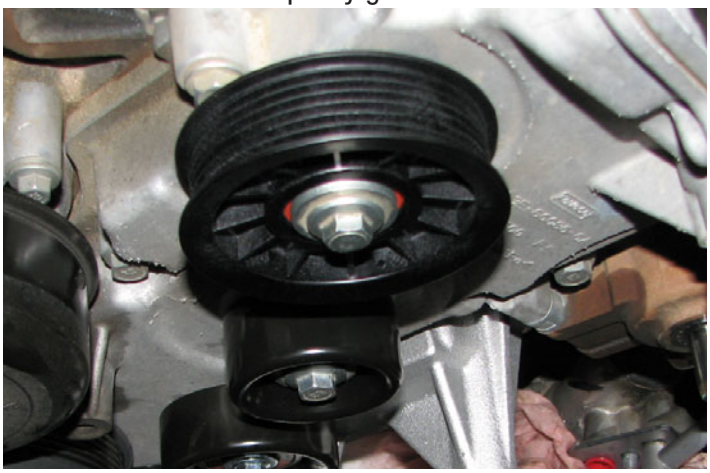
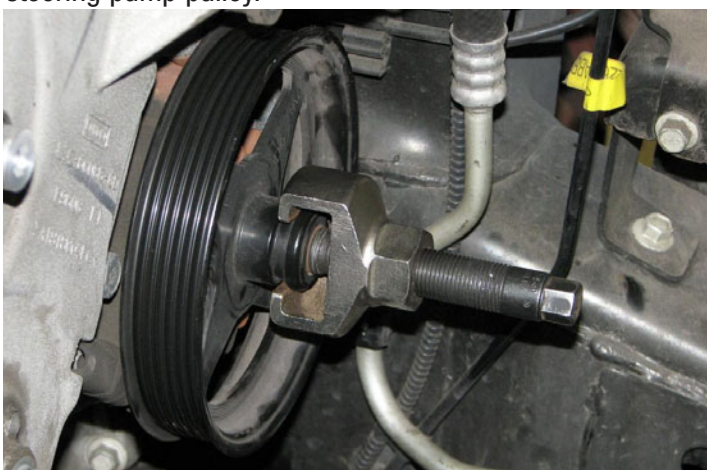
58. Use the stock bolts in the same locations to install the supplied idler pulleys on the two front cover bosses. Note that the smooth 65mm pulley goes on the lower boss.



59. Use a pulley removal tool to remove the power steering pump pulley.

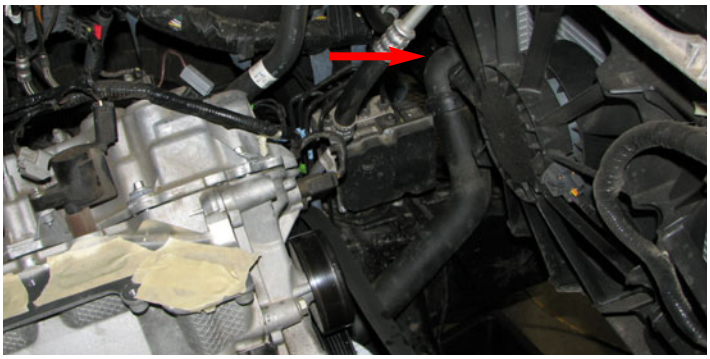


60. Use a turkey baster, hand pump or siphon to drain the power steering fluid reservoir.

NOTE: Several of the following steps are more easily accomplished by working from below the truck. A service lift is the preferred method of accessing the undercarriage, but appropriately load-rated jack and jack stands will work, as well.

61. Position a drain pan below the radiator then disconnect the lower radiator hose from the engine.

62. Use needle nose pliers or a flat blade screwdriver to remove the e-clip from the plastic hose fitting that holds the lower radiator hose to the radiator and remove the hose.

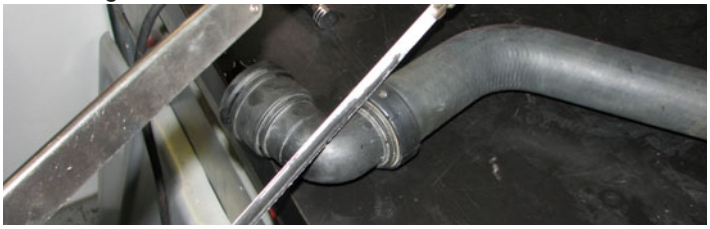


63. Position a drain pan below the oil filter and power steering pump.

64. Remove the oil filter and allow engine oil to drain. It is not necessary to fully drain the oil pan.

65. Use a 10mm socket to unbolt and remove the oil splash shield.

66. Remove the plastic elbow fitting from the lower radiator hose by cutting the plastic retaining ring with a hacksaw or cut-off wheel. Use caution to avoid damaging the fitting itself.



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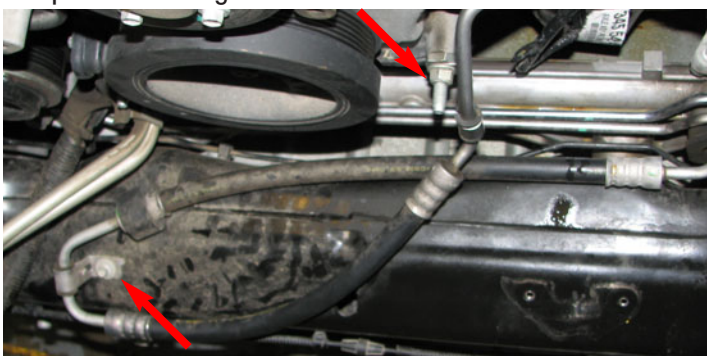
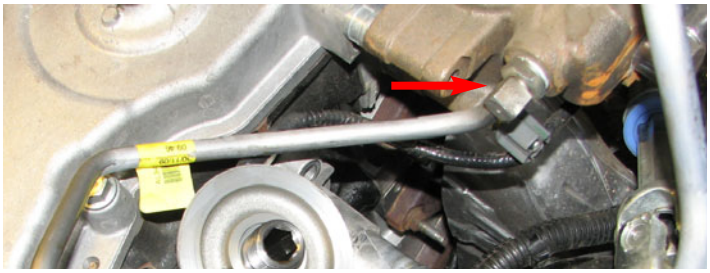
67. Use a 15mm deep socket to remove the nut securing the power steering hard line to the front cover stud.

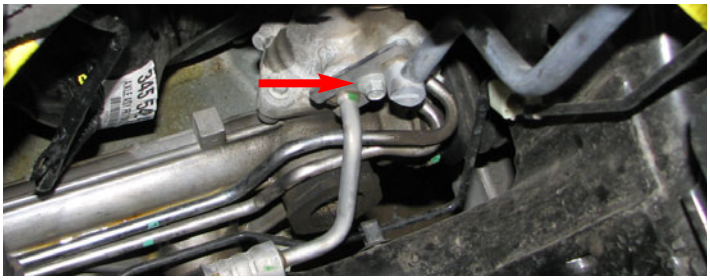


68. Use a 10mm socket to remove the bolt securing the power steering pressure line to the crossmember.

69. Use an 18mm wrench to remove the power steering pressure line from the under side of the pump. If the power steering line has a sensor in it (2009 trucks), pry up the lock tab and remove the connector.



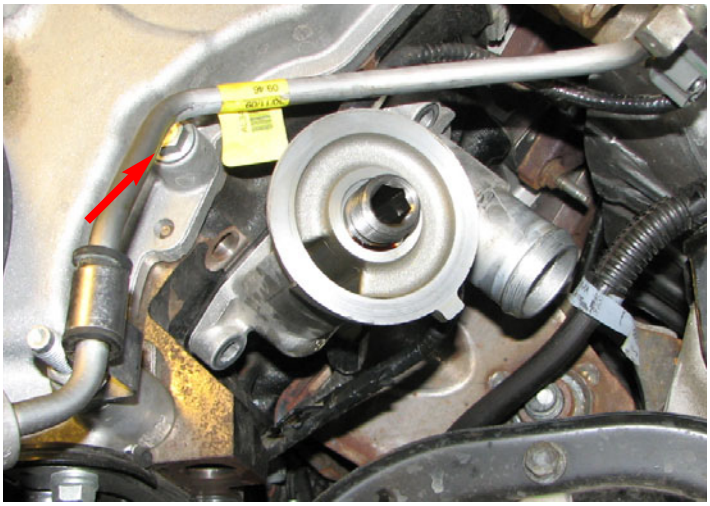
70. Use a 10mm socket to remove the bolt that holds the power steering line retention bracket in place. Save this bolt for later reuse.



71. The power steering pressure line can now be pulled out of the steering box and removed from the vehicle.

72. Depress the locking tab and pull the electrical connector off the oil pressure sensor.

73. Use a 10mm universal socket and an extension bar to remove the four bolts that retain the oil filter bracket to the side of the engine block. Remove and save the gasket for reuse later.



74. Use a 12mm wrench to remove the front cover bolt adjacent to the oil filter bracket.

75. Use a 21mm wrench to remove the oil pressure sensor from the filter bracket.

NOTE: 4wd trucks will need to use the bracket supplied with the #15834 kit, as shown in the following steps. 2wd trucks should use the bracket supplied in #1583 supercharger box.

76. Apply thread sealant to the threads of the supplied plug and the stock oil pressure sensor then install them in the supplied oil filter bracket.

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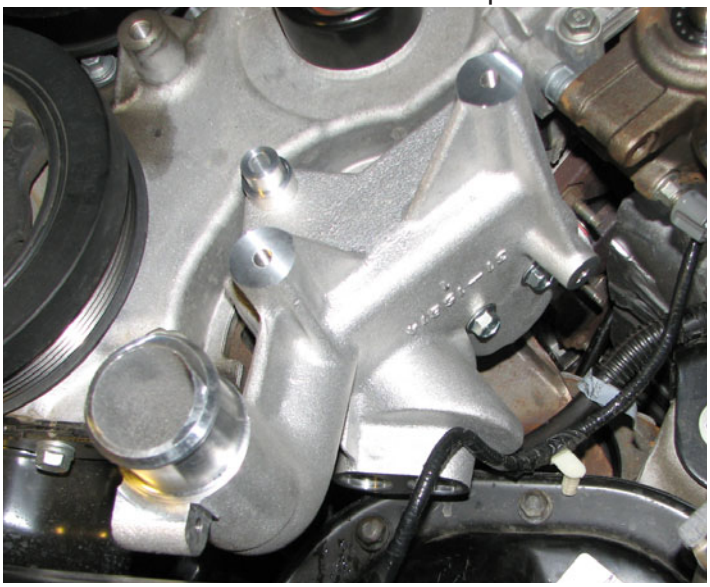
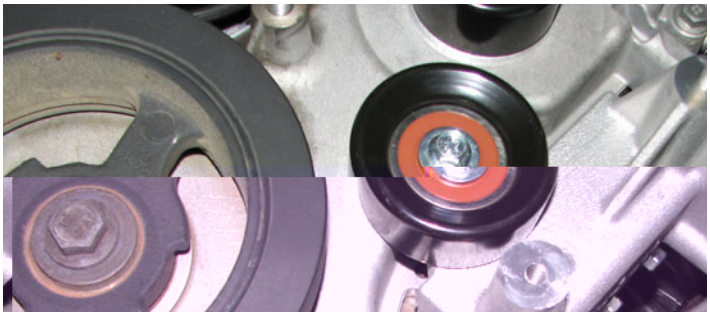
77. Place the oil filter bracket gasket on the flange of the supplied bracket. Once the bracket is close enough, attach the electrical connector to the oil pressure sensor.



78. Use the M8 x 75mm long mounting bolts supplied in Bag #3 to hold the gasket in place while aligning the flange of the supplied bracket to the block. Finger tighten these bolts until the bracket is flush to the block then install the short M8 x 35mm bolts also supplied in Bag #3. A swivel 10mm socket and extension bar are strongly recommended to facilitate installation of the bottom bolt.

79. Install the supplied 76mm idler pulley to the front boss of the oil filter bracket with the M8 x 90mm bolt and washer supplied in Bag #3. Only snug the bolt at this time.

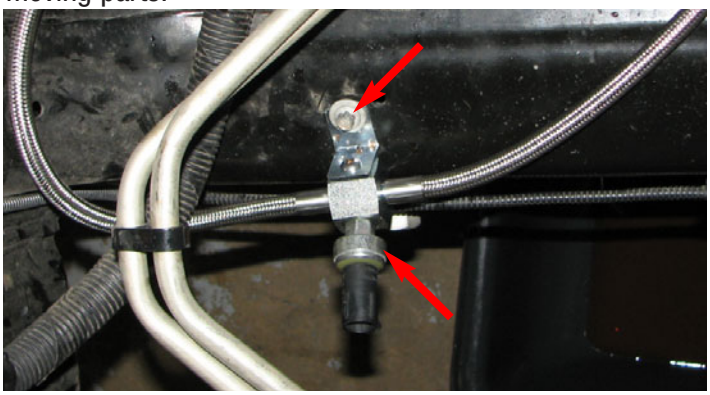


80. Tighten down the four mounting bolts, then tighten the pulley bolt. Verify that the pulley can spin freely once all the filter bracket bolts have been tightened.

81. Use an 18mm wrench to install the supplied fitting into the power steering pump then torque it to 48 ft-lbs.

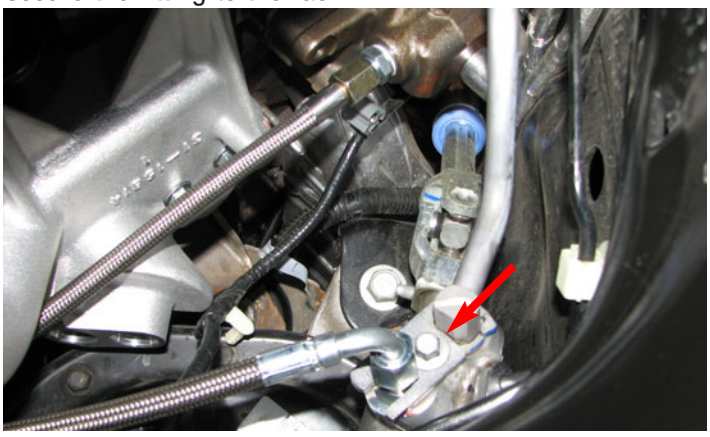
82. Install and tighten the fitting on the short side of the supplied power steering hose onto the fitting in the pump.

83. Route the power steering hose along the crossmember and back to the power steering rack. Secure it to the crossmember with the stock bolt. Use the supplied wire ties to isolate the hose away from any moving parts.

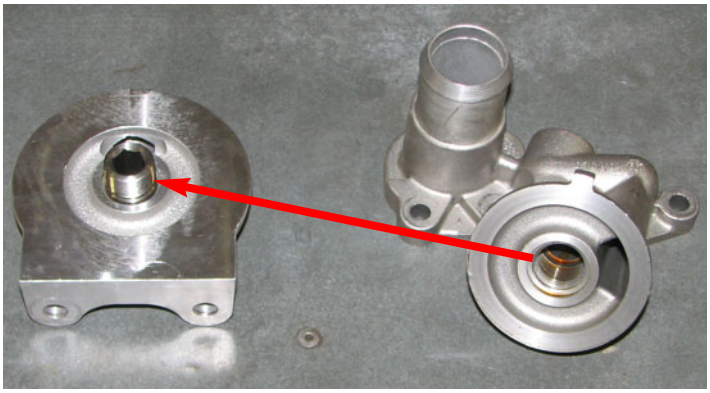


84. 2009 trucks will need to remove the power steering pressure sensor from the stock power steering line and install it in the new power steering hose then attach the wire harness connector. 2010 trucks need to install the plug supplied in Bag #6.

85. Tighten the smooth fitting supplied on the other end of the power steering pressure line then insert it into the power steering rack. Use the stock bolt and bracket to secure the fitting to the rack.



86. Use a 1/2" allen wrench to remove the oil filter fitting from the stock oil filter bracket. 2wd trucks will install it in the supplied oil filter bracket while 4wd trucks will install it in the remote filter bracket supplied with the #15834 4wd Kit.



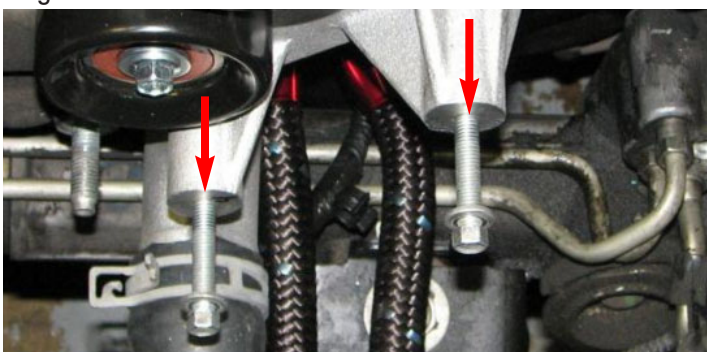
87. 2wd trucks should now install the oil filter on the new bracket, while 4wd trucks should refer to the instructions supplied with the #15834 kit.

88. Insert the plastic elbow fitting into the supplied lower radiator hose and secure it with the supplied hose clamp.

89. Install the lower radiator hose between the oil filter bracket and the radiator. Secure the hose to the bracket with the stock hose clamp then secure the hose fitting to the radiator by reinserting the stock wire clip.

90. Use a pulley installation tool to reinstall the power steering pump pulley.

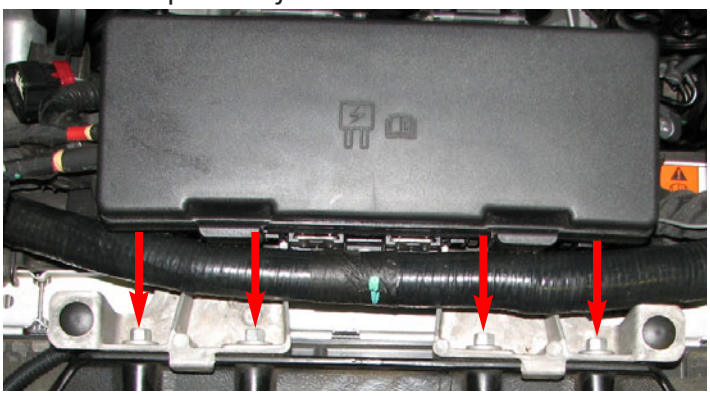
91. Install the M8 x 45mm alternator bolts supplied in Bag #3 into the new oil filter bracket.



92. Slide the stock protective boot onto the ring terminal end of the supplied alternator power harness then install the ring terminal on to the power stud of the positive battery terminal and secure it with the stock nut.

93. Attach the supplied alternator power harness to the connector at the top of the radiator on the passenger side.

94. Loosen the four fuse box mounting bolts if they haven't been previously removed.



95. Route the alternator wire harness along the top of the radiator, working it below the fuse box support brackets, then plug it into the alternator.

96. Remove the nut on the alternator power stud and install the supplied power wire so that the harness extends in the opposite direction as the alternator mounting ears, reusing the stock plastic wire boot. Tighten the nut once the power wire is installed then slide the boot over the nut.

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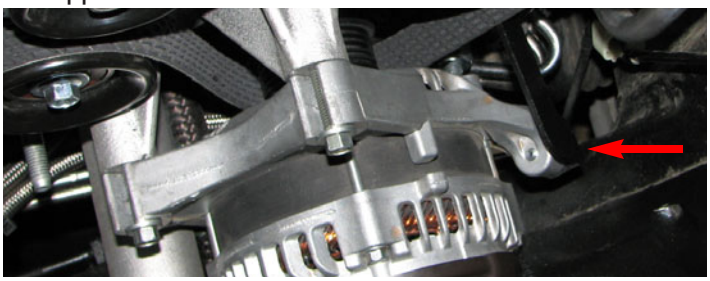
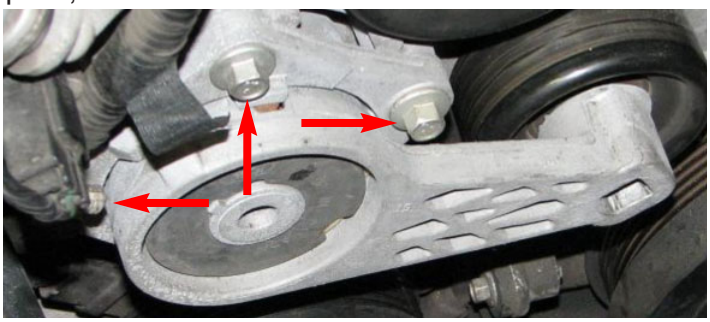
97. Loop the supplied serpentine belt around the alternator pulley with the ribbed side facing the pulley and the belt going around the upper bolt boss of the bracket. Lift the alternator into place and snug the mounting bolts but do not fully tighten them at this time.

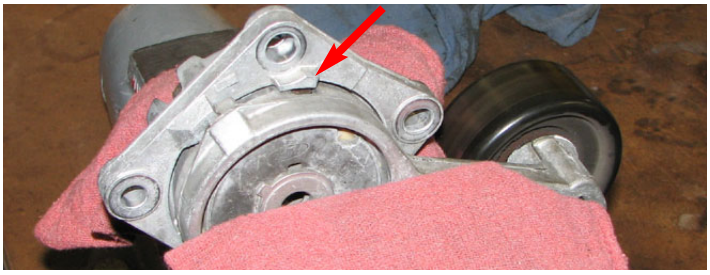
98. Position the alternator support straps so that they align with the bolt provisions on the alternator and the oil filter bracket. Snug the supplied strap bolts, then hold the alternator firmly against the bracket while torquing the bracket bolts to 18 ft-lbs, then torque the strap bolts to 8 ft-lbs. Make sure the belt stays between the strap and the upper bolt boss.



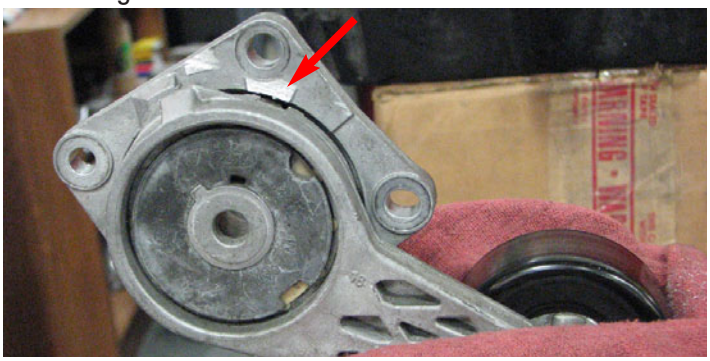
99. Remove the three bolts holding the belt tensioner in place, and remove the tensioner.



100. Place the tensioner in a cloth wrapped vice and use a grinding wheel or hacksaw to remove the stop.



101. Use a grinding wheel or file to ensure that the area that was ground down is smooth and free of burrs.



102. Align the two pieces of the tensioner brace so that the bolt holes line up and the script is facing out then install the three M6 x 25mm bolts supplied with the brace.

103. Use the stock bolts to reinstall the tensioner.

104. Remove the tape covering the water passages in the cylinder heads. Apply the stock gaskets to the new water crossover, then lower the crossover onto the heads. Install the M6 x 45mm bolts supplied in Bag #4 and torque them to 8 ft-lbs.

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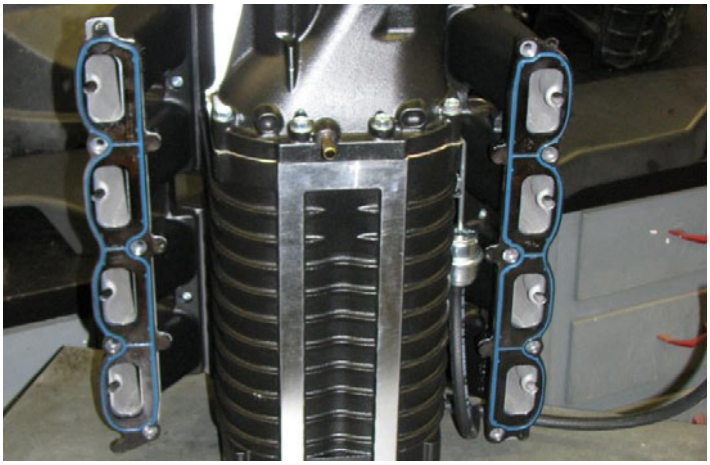
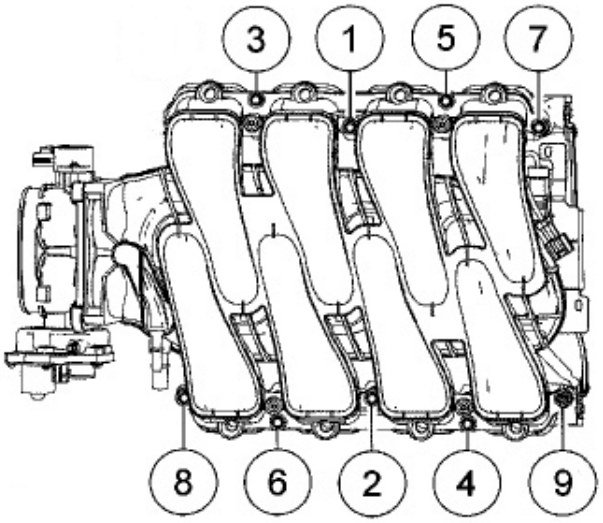
105. Remove the tape covering the intake ports of the cylinder heads and supercharger runner flanges.

106. Install the stock intake gaskets onto the runner flanges of the supercharger assembly. Note that not every lock tab will have a corresponding hole.



107. Lift the supercharger assembly, with the flange gaskets in place, over the water crossover and onto the engine. Insert the M6 x 30mm manifold bolts supplied in Bag #1 into their provisions to determine when the manifold is properly aligned.

108. Torque the manifold bolts to 89 in-lbs. in the sequence shown below.



109. Attach the stock heater hose to the passenger side fitting on the supplied water crossover then secure it with the stock hose clamp.

110. Install the supplied anti-rotation and mounting brackets on the supplied fuel rails using the M6 x 12mm bolts supplied in Bag #6. Note that mounting brackets should be oriented so that the fuel rails will be installed lower than the bolt holes and the anti-rotation brackets should point down and away from the manifold.

111. Apply a small amount of lube to the o-ring of each fuel rail fitting. Install the supplied 180° swivel inlet fitting on the front provision of the driver side fuel rail and the supplied plug on the front provision of the passenger side rail. Install the two straight crossover fittings on to the rear provisions of both fuel rails.

112. Apply a small amount of lube to each injector and insert them into the injector provisions in the fuel rails. Install the fuel crossover line on the two straight fittings and the fuel inlet line on the black inlet fitting.

113. Install the fuel rail assembly onto the supercharger with the crossover line at the back. Line up the fuel injectors with their respective provisions then push down on the rails until all the injectors are fully seated. Use the allen bolts supplied in Bag #2 to secure the mounting brackets to the supercharger.

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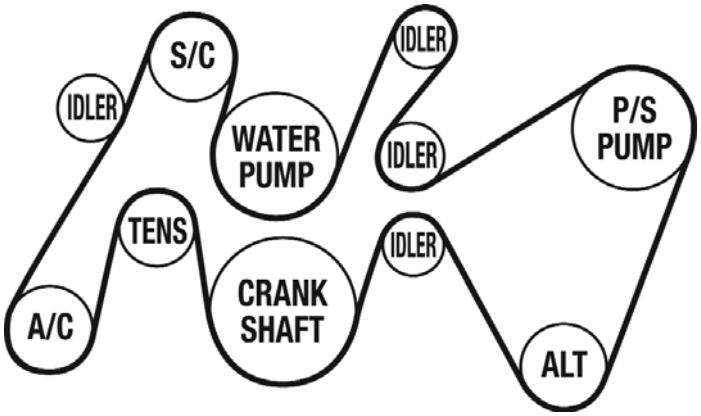
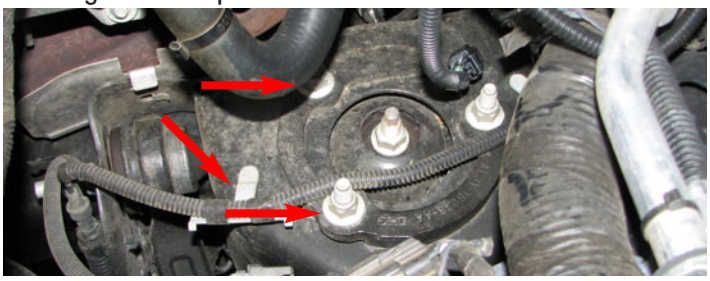
114. Attach the eight fuel injector electrical connectors to their respective injectors.

115. Push the fuel supply hose onto the fitting on the supplied fuel inlet line until it clicks into place then depress the blue lock clip to secure it.

116. Route the serpentine belt according to the diagram below. Insert a breaker bar into the tensioner and apply pressure to slide the belt onto the final pulley.

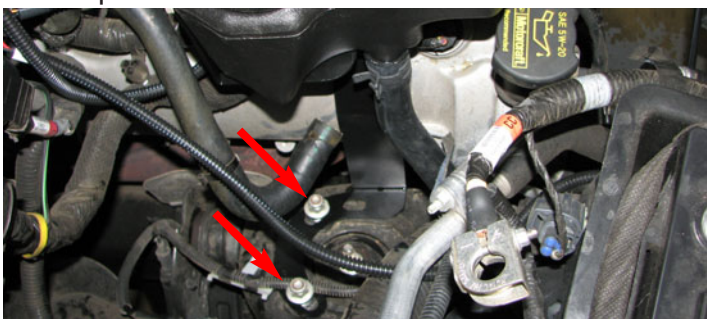


117. Remove the two rear strut tower nuts on the passenger side. Lift the clip holding the nearby cable housing until it seperates from the fender.



118. Mount the intercooler reservoir to its mounting bracket using the M6 x 16mm bolts supplied in Bag #5. Attach the Reservoir to Pump molded hose to the lower fitting of the reservoir so that it can be routed down and around the radiator on the passenger side and secure it with a supplied hose clamp.

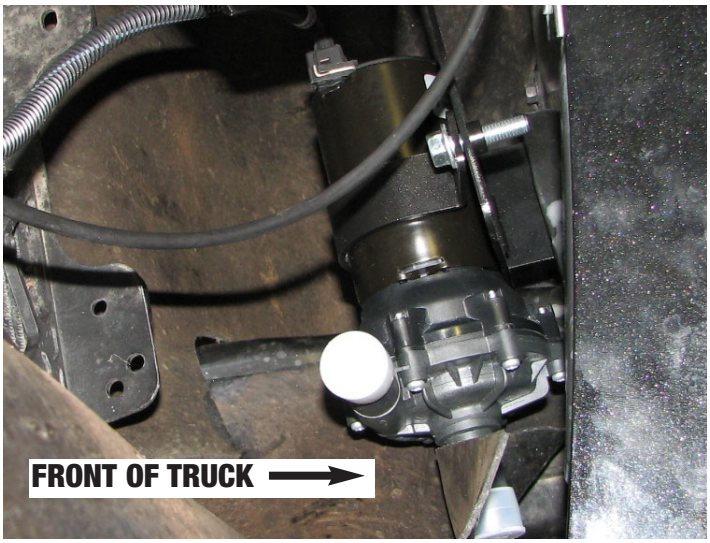
119. Install the intercooler reservoir so that the bracket is on the strut tower studs. Reinstall the strut tower nuts and torque them to 30 ft-lbs.



120. Install the Supercharger to Reservoir hose between the intercooler reservoir and the passenger side of the supercharger and secure both ends with the hose clamps supplied in Bag #5.

121. Install the water pump into the water pump bracket so that the pump outlet will point up when installed and the pump inlet points toward the passenger side fender. Secure the water pump to the bracket using the strap and the M8 x 30mm bolt supplied in Bag #5.

122. Identify the mounting holes on the water pump bracket then hold the bracket in place behind the bumper, on the passenger side, to identify the inner frame horn nut and bumper beam bolt that will need to be removed and reinstalled to mount the bracket.



123. Remove the fasteners previously identified, install the water pump bracket then reinstall the nut and bolt.

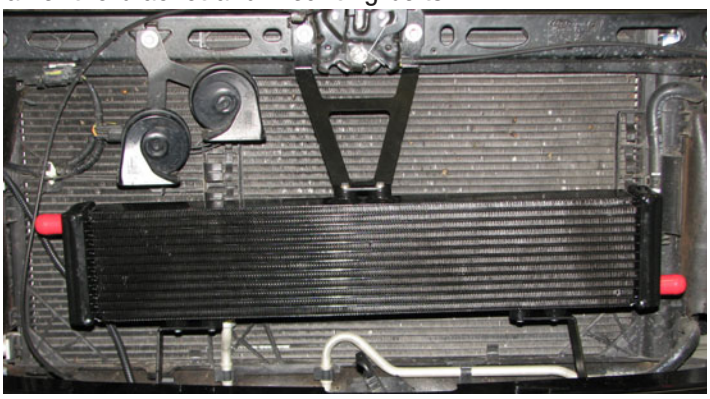
124. Loosely install the passenger side heat exchanger bracket (the one with 4 holes) to the top of the water pump bracket with the M6 x 16mm bolts supplied in Bag #5.

125. Remove the bolt behind the bumper on the driver side. Loosely install the driver side heat exchanger bracket (the one with 3 holes) using the stock bolt.

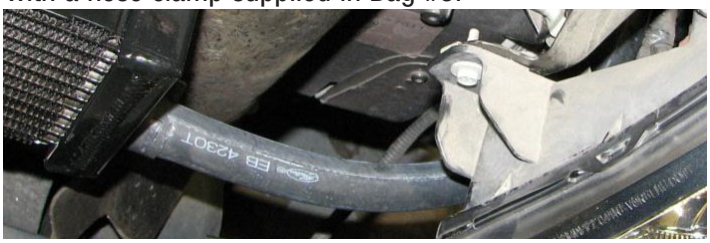
126. Mark the location of the hood latch then loosen the two bolts that retain the hood latch.

127. Loosely install the upper heat exchanger bracket over the hood latch using the stock bolts.

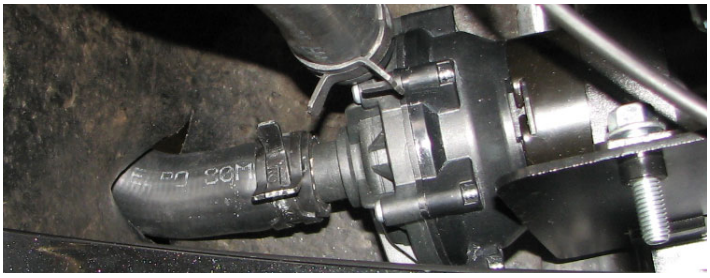
128. Install the heat exchanger by lining up the mounting holes with the provisions on the mounting brackets and loosely installing the M5 x 16mm bolts supplied in Bag #5. Once the heat exchanger has been lined up, tighten all of the bracket and mounting bolts.



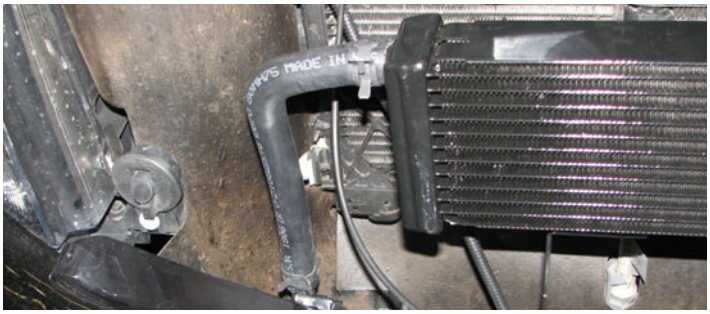
129. Route the Heat Exchanger to Supercharger hose from the top of the engine bay down towards the driver side headlight, around the front of the radiator and attach it to the heat exchanger outlet fitting. Secure the fitting with a hose clamp supplied in Bag #5.



130. Route the molded hose from the bottom of the intercooler reservoir to the water pump inlet and note the location where it intersects with the passenger side radiator shroud. Make a small incision in the shroud at this location then feed the hose through and attach it to the water pump inlet, securing the fitting with a hose clamp supplied in Bag #5.



131. Mount the Water Pump to Heat Exchanger hose on the water pump outlet and heat exchanger inlet and secure the fittings with hose clamps supplied in Bag #5.



132. Attach water pump harness connector to the pump.

133. Connect the purge solenoid hose to the lower, straight fitting behind the throttle body flange on the air inlet, next to the thermostat housing.

134. Connect the 90° end of the driver side PCV hose to the valve cover fitting and the straight end to the upper, 90° fitting behind the throttle body flange on the air inlet, next to the thermostat housing.

135. Install the Heat Exchanger to Supercharger hose to the fitting on the front of the supercharger and secure it with a hose clamp supplied in Bag #5.

136. Install the stock thermostat, o-ring and housing on the new water crossover and install the stock bolts.

NOTE: The following fan installation procedure only applies to 2009 trucks equipped with a clutch fan. 2010 trucks equipped with an electric fan should skip ahead to step #144.

137. Reinstall clutch fan.

138. Use a cut-off wheel to trim the bottom, driver side of the radiator fan shroud as shown to clear the alternator.

139. Reinstall the fan shroud using stock hardware.

140. Clip the power steering hose on the driver side to the top of the radiator.

141. Reinstall the stock bolt that retains the power steering reservoir.

142. Reconnect the clutch fan control plug and slide the connector back on to its bracket.

143. Install the four stock bolts that hold the fuse box in place.

144. Reinstall the stock upper radiator hose between the thermostat housing and radiator and secure it with the stock hose clamps.

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145. Remove the plastic sheet from the supercharger air inlet and install the throttle body o-ring supplied in Bag #1 on to the air inlet flange.

146. Install the stock throttle body onto the inlet flange with the stock bolts so that the TPS is on top.

147. Attach the ETC extension and TPS connectors to the throttle body and connect the other end of the ETC extension to the stock ETC harness connector.

NOTE: The following depinning procedure may also be skipped if the supplied connector matches OEM.

148. Locate the MAFS electrical connector near the driver side fender. Use a small pick to release the lock tab and raise the wedge lock.

149. Note the color of the wires going into pin locations 1 and 2, then depin just those two wires from the connector. Push the wedge lock down once the two wires are out.

150. Locate the small connector attached to the supplied TMAP extension harness and remove it. Use a small pick to raise the wedge lock then insert the wires removed from the MAFS connector into the supplied connector in the same pin locations that they were in previously.

151. Install the supplied air filter in the stock airbox.

152. Use a T20 Torx driver to remove the stock MAF sensor from the air box cover and install the supplied MAF sensor in its place.

153. Fully seat the supplied air filter in the air box then reinstall the air box cover. Do not latch the air box cover at this time.

154. Insert the silicone elbow between the throttle body and the MAFS housing and secure it with the supplied worm clamps. The best way to do this is to put the elbow on the throttle body first, then tilt the air box cover back and work the elbow on to the cover outlet as you tilt it back down. Latch the cover closed when you're done.

155. Attach the MAF connector to the new MAF sensor.

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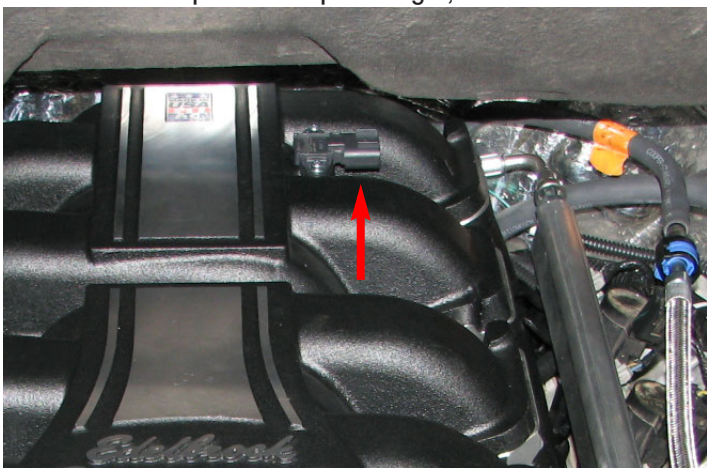
156. Attach the TMAP extension harness to the new connector next to the MAF sensor and connect it to the sensor at the top of the supercharger, towards the back.



157. Install passenger side PCV hose between the passenger side valve cover and the fitting at the side of the silicone elbow.

158. Install the supplied hose onto the brake booster barb and route it to the fitting at the front of the air inlet and secure the fittings with hose clamps supplied in Bag #1.

159. Verify that the coolant petcock is closed, then refill the coolant system.

160. Fill the intercooler system with a 50/50 blend of water and coolant poured into the recovery tank. Fill the tank until the water level is roughly 1" from the top of the threaded neck.

161. Refill the power steering reservoir with power steering fluid and pour half a quart of engine oil into the oil fill tube (provided the new oil filter was installed dry).

162. Turn the ignition key to the 'ON' position but do not start the engine.

163. Verify that water is flowing briskly through the recovery tank, then install the cap. If water is not flowing, turn the key off and on again to bleed the system.

164. It is recommended that you check the Edelbrock website (http://www.edelbrock.com/automotive_new/mc/superchargers/fuel_injected_soft-tech.shtml) to confirm that you have the latest calibration. Once you have found the latest tune on the site, power on the programmer, press the left arrow and select the Device Info option. Scroll down to Tune Version and compare that number to the one on the site. If they are different, download the new calibration with the supplied USB cable.

165. Connect the supplied PCM cable on the handheld programmer to the OBD-II connector located below the steering wheel in the passenger compartment.

166. Use directional pad to highlight Program Vehicle option and press Select button.

167. Use directional pad to highlight Preprogrammed Tune option and press Select button.

168. Read disclaimer then press Select to continue.

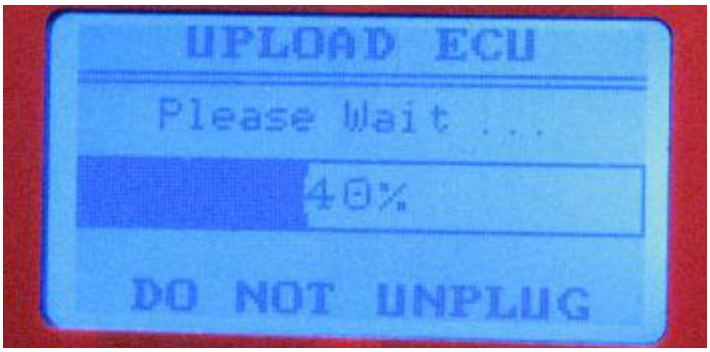
169. Verify ignition is in the 'Key On' position but that the engine is not running then press Select.

170. Use directional pad to highlight your vehicle and transmission combination then press Select.

171. Use directional pad to highlight your vehicle and transmission combination then press Select, again.

172. Use directional pad to highlight Begin Program then press Select.

173. Five separate operations will take place during this step. Completion of each operation will cause the progress bar to reset to zero.



DO NOT unplug the programmer until prompted.

174. Turn the truck off when prompted to do so by the handheld programmer.

175. Read parting message from programmer then press Select to continue.

176. Unplug the programmer cable from the OBD-II port.

177. If you have access to a diagnostic scan tool, run a 'Key On, Engine Off' test to verify that all connectors are properly installed, otherwise move on to the next step.

178. Start the truck and verify a smooth idle. If you are using a diagnostic scan tool, run a 'Key On, Engine Run' test.

179. Carefully inspect the fuel rail and fuel hose fittings for any leaks. Shut off the engine immediately and make repairs as necessary before continuing if any leaks are detected.

180. Check all fluid levels before operating vehicle.